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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,937	03/31/2004	Heiner Pitz	600.1306	7474

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EXAMINER

WILLIAMS, KEVIN D

ART UNIT PAPER NUMBER

2854

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,937

Applicant(s)

PITZ ET AL.

Examiner

Kevin D. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,3 and 6-8 is/are allowed.
- 6) ☒ Claim(s) 1,4,5,9,10 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Dictionary.com printout, 4 pgs.

DETAILED ACTION

1. In view of the appeal brief filed on 12/15/2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilbur (US 2004/0189769) in view of Jung (US 2003/0066452).

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Wilbur teaches a method for drying a printing ink on a printing substrate in a printing device comprising the steps of using at least one printing ink to print 16 on the printing substrate at a first position of a path, the printing substrate being moved along the path through the printing device, applying a treatment agent (heat applied directly to medium before printing; [0039]; clm. 39) at a second position of the path on the printing substrate to accelerate drying of the printing ink on the printing substrate, the applying of the treatment agent at the second position occurring before the printing at the first position (clm. 39), the substrate being dried by a radiant energy [0039] at a chronologically later point in time from the using and applying steps at at least one third position of the path.

Wilbur discloses an ink jet printing device and therefore does not disclose the method of printing in a printing press.

Jung discloses a method of printing in a printing press including radiant energy devices used for drying the printed ink.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wilbur to have the drying arrangement in a printing press as taught by Jung, in order to increase the speed at which the printed ink dries.

4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung (US 2003/0066452) in view of Broder (US 5,668,584).

Jung teaches a method for drying a printing ink on a printing substrate in a printing press comprising the steps of using at least one printing ink to print on the printing substrate at a first position (Fig. 1) of a path, the printing substrate being moved

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along the path through the printing press (Fig. 1), the substrate being dried by the action of radiant energy 8 at a chronologically later point in time from the using step at at least one third position of the path.

Jung does not teach applying a treatment agent at a second position of the path on the printing substrate to accelerate drying of the printing ink on the printing substrate, and the applying of the treatment agent at the second position occurring before the printing at the first position.

Broder teaches a printing device having the step of applying a treatment agent (convective heat applied directly to medium before printing; col. 3, lines 52-54; col. 6, lines 9-12) at a second position of a path on the printing substrate to accelerate drying of the printing ink on the printing substrate, where the application of the treatment agent at the second position occurs before the printing at the first position (col. 6, lines 9-12).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jung to preheat the printing substrate as taught by Jung, in order to increase the speed at which the printed ink dries.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung (US 2003/0066452) in view of Bär (US 6,401,358).

Jung teaches a printing device comprising at least one printing unit I at a first position along a path of a printing substrate through the printing device, at least one drying device 8 at a third position along the path downstream from the print unit for supplying energy to the printing substrate, wherein at one further second position upstream from the drying device, the printing press includes a conditioning apparatus

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for applying a treatment agent 7 accelerating drying of the printing ink on the printing substrate at the third position, where the conditioning apparatus is designed to allow an application of the treatment agent from both sides onto the printing substrate (Fig. 2).

Jung does not describe the drying device and therefore does not teach the drying device including at least one narrow-band radiant energy source emitting light of one wavelength in the near infrared region.

Bär teaches a drying device including at least one narrow-band radiant energy source emitting light of one wavelength in the near infrared region (col. 2, lines 54-62).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Jung to have the drying device as taught by Bär, in order to increase the drying speed of the printed ink.

6. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doberenz (US 2003/0071863) in view of Jung (US 2003/0066452).

Doberenz teaches a method for drying a printing ink on a printing substrate in a printing device comprising the steps of using at least one printing ink to print on the printing substrate at a first position of a path, applying a treatment agent [0028] at a second position of the path on the printing substrate to accelerate drying of the printing ink on the printing substrate, the applying of the treatment agent at the second position occurring before the printing at the first position [0028].

Doberenz does not disclose the method of printing in a printing press, the printing substrate being moved along the path through the printing device, where the treatment agent includes a siccativ solution, an alkaline solution, or a binding agent.

Jung discloses a method of printing in a printing press (Fig. 1), a printing substrate being moved along a path through the printing device (Fig. 1), including a device used for drying the printed ink, where the treatment agent includes a siccative solution, an alkaline solution, or a binding agent (inherently includes a binding agent to bind the mixture).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Doberenz to have the drying arrangement in a printing press as taught by Jung, in order to increase the speed at which the printed ink dries.

7. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung in view of Bär as applied to claims 9 and 10 above and further in view of Rodi (US 5,115,741).

Jung in view of Bär teaches the claimed invention and a heating device 8, but does not provide a discussion of the particular type of heating device used, therefore Jung does not expressly disclose the printing substrate being dried by action of a radiant energy source in the form of a laser light source, the laser light source being a semiconductor laser, a gas laser, or a solid-state laser, the light incident to the printing substrate at one position being controllable in its intensity and exposure duration for each radiant energy source independently of the other radiant energy sources, the drying device having a plurality of radiant energy sources arranged in a one-dimensional field, a two-dimensional field, or a three-dimensional field with light striking the printing substrate at a number of positions, and a drying device including at least

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two radiant energy sources and the light from at least two radiant energy sources being incident to the printing substrate at one position.

Rodi teaches a printing substrate being dried by action of radiant energy in the form of a laser light source 15 and emitting light of one wavelength in the near infrared region, the laser light source being a semiconductor laser, a gas laser, or a solid-state laser 15, the drying device having a plurality of radiant energy sources (Fig. 3; 15) arranged in a one-dimensional field, a two-dimensional field, or a three-dimensional (fig. 3) field with light striking the printing substrate at a number of positions, the light incident to the printing substrate at one position being controllable in its intensity and exposure duration for each radiant energy source independently of the other radiant energy sources (col. 5, lines 12-20), and the drying device including at least two radiant energy sources and the light from at least two radiant energy sources being incident to the printing substrate at one position (Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to additionally modify Jung to have the radiant energy device as taught by Rodi, in order to provide sufficient heat to the printed substrate to effectively dry the printed ink.

Allowable Subject Matter

8. Claims 2, 3, 6, 7, and 8 are allowed.

Response to Arguments

With respect to the rejection of claims 1 and 4 as being unpatentable over Wilbur in view of Jung, applicant argues that heat and radiation are not "treatment agents" as

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recited in claim 1. The examiner disagrees. The examiner contends that heat is a "treatment agent" and meets the limitations recited in claim 1. Dictionary.com defines the term "agent" as "a force or substance that causes change." The term "force" is defined as "the capacity to do work or cause physical change; energy." Heat in any form has the capacity to cause physical change. Moreover, heat is a form of energy (see the attached dictionary.com printout). The examiner contends that heat is a force that causing change and is therefore a treatment agent according to the language of claim 1.

With respect to the newly cited rejection of claims 1 and 4 as being unpatentable over Jung in view of Broder, the examiner contends that Broder teaches a treatment agent as defined in claim 1. Broder preheats the sheet before printing by convective heat transfer. The air that contacts the sheet is a treatment agent. Dictionary.com defines the term "agent" as "a force or substance that causes change." The air in Broder is a substance that causes change. Therefore, the air that contacts the sheet in Broder is a treatment agent.

With respect to the newly cited rejection of claims 9 and 10 as being unpatentable over Jung in view of Bär, the examiner contends that Bär teaches a narrow-band radiant energy source emitting light of one wavelength in the near infrared region for drying ink on printed sheets as recited in claim 9. See column 2, lines 54-62.

With respect to the rejection of claims 1 and 5 as being unpatentable over Doberenz in view of Jung, applicant argues that Doberenz does not teach the application of a treatment agent to the printing substrate before printing. Applicant

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further states that it is not clear from the disclosure of Doberenz that the chemical does not contact the ink in the air or before the ink contacts the printing substrate. The examiner disagrees and contends that the chemical is dispersed onto the printing substrate before the ink contacts the substrate. It is clear that the chemical does not contact the ink in the air or before the ink contacts the printing substrate since Doberenz discloses that the chemical can be dispersed from a spray bottle or pre-treated wipe. It would be impossible for the ink to contact a pre-treated wipe in the air before it lands on the printing substrate. Therefore, Doberenz teaches the application of a treatment agent to the printing substrate before printing.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to U.S Published Applications 2003/0020795 to Bär, 2003/0010251 to Woosman, and 2003/0108689 to Tan which disclose device for drying printing ink with near IR radiation.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin D. Williams whose telephone number is (571) 272-2172. The examiner can normally be reached on Monday - Friday, 8:30am - 6:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

KDW
April 27, 2006



ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800